

2. BENEFICIAL USES

Introduction

The basis for the discussion of beneficial water uses, which follows, is Section 13050(f) of California's Porter-Cologne Water Quality Control Act, which states:

"Beneficial uses" of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

~~A key~~ An essential part of a water quality control plan is an assessment of the beneficial uses, which are to be designated and protected. Table 2-1 identifies beneficial uses for ~~major surface water bodies~~ each hydrologic area in the Region, as well as for specific waterbodies and broad categories of waters (i.e., bays, estuaries, minor coastal streams, ocean waters, wetlands, and groundwaters). Protection will be afforded to the present and potential beneficial uses of waters of the North Coast Region as designated and presented in Table 2-1. The beneficial uses of any specifically identified water body generally apply to all its tributaries. ~~For unidentified water bodies, the beneficial uses will be evaluated on a case-by-case basis~~

~~Water bodies within the Region that do not have beneficial uses designated for them in Table 2-1 are assigned MUN designations in accordance with the provisions of State Water Resources Control Board Resolution No. 88-63 "Sources of Drinking Water" policy (Appendix Section of this plan) which is, by reference, a part of this plan. These MUN designations in no way affect the presence or absence of other beneficial use designations in these water bodies.~~

Water quality standards are adopted to protect public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act (as defined in Sections 101(a)(2), and 303(c) of the Act). Water quality standards consist of 1) designated beneficial uses; 2) the water quality objectives to protect those designated uses; 3) implementation of the Federal

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and State policies for antidegradation; and 4) general policies for application and implementation. Chapter 3 of the Basin Plan contains numeric and narrative water quality objectives, including Resolution 68-16, designed to ensure that all designated beneficial uses of water in the region are maintained and protected. Chapter 4 contains the implementation plans and policies intended to meet water quality objectives and protect beneficial uses. Chapter 5 describes the region and statewide monitoring and surveillance methods to measure achievement of the water quality objectives. The objective of the State's Policy for Maintaining High Quality of Waters in California (Antidegradation Policy - Resolution 68-16) is explained in Chapter 3, on page 3 – 2.00. The entire text of this policy is contained in Appendix 6 to the Basin Plan. The federal Antidegradation Policy also applies to the protection of beneficial uses. The federal Antidegradation Policy is contained in Appendix 6-B.

~~The most sensitive beneficial uses from the standpoint of water quality management are municipal, domestic, and industrial supply, recreation, and uses associated with maintenance of resident and anadromous fisheries. The Klamath, Trinity, Smith, Eel, and Mad Rivers, and others within the North Coast Region, are renowned for salmon and steelhead fishing and support a substantial portion of the ocean sport and commercial fisheries for these species. Other notable features of the basin's beneficial uses are the wildfowl use on three national wildlife refuges in the Lost River and Butte Valley hydrologic areas and an abundance of deer and other wildlife throughout the Region.~~

~~The codes used in Table 2-1 are explained in greater detail as follows:~~

Beneficial Use Definitions

In 1972, the State Water Board adopted a uniform list of beneficial uses, including descriptions, to be applied throughout all basins of the State. This list was updated in 1996.

In addition to the beneficial uses identified on the statewide list, the following uses have been identified as uses in this region. 1) Three wetland beneficial uses, recognizing the value of protecting these unique waterbodies, Wetland Habitat (WET), Water Quality Enhancement (WQE), and Flood Peak Attenuation/ Flood Water Storage (FLD); 2) the Native

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American Cultural (CUL) use, identifying the traditional and cultural uses of waters within the region; and 3) modification of the Commercial and Sport Fishing (COMM) use acknowledging subsistence fishing.

The following beneficial uses are designated within the North Coast Region.

Municipal and Domestic Supply (MUN) Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Agricultural Supply (AGR) Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Service Supply (IND) Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Industrial Process Supply (PRO) Uses of water for industrial activities that depend primarily on water quality.

Groundwater Recharge (GWR) Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

Freshwater Replenishment (FRSH) Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

Navigation (NAV) Uses of water for shipping, travel, or other transportation by private, military or commercial vessels.

Hydropower Generation (POW) Uses of water for hydropower generation.

Water Contact Recreation (REC-1) Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing (COMM) Uses of water for commercial, recreational (sport) collection of fish, shellfish, or other aquatic organisms including, but not limited to, uses involving organisms intended for human consumption, subsistence, and/or bait purposes.

Aquaculture (AQUA) Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Warm Freshwater Habitat (WARM) Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Freshwater Habitat (COLD) Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Inland Saline Water Habitat (SAL) Uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat (EST) Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

Marine Habitat (MAR) Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

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Wildlife Habitat (WILD) Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Areas of Special Biological Significance (BIOL) ~~Includes marine life refuges, ecological reserves and designated areas of special biological significance, such as areas where kelp propagation and maintenance are features of the marine environment requiring special protection.~~

Biologically Significant Areas (BSA) Uses of water that support areas or habitats that have been officially designated as biologically significant, such as established refuges, parks, sanctuaries, ecological reserves, and State Water Quality Protection Areas (SWQPAs), where the preservation of natural resources requires special protection.

Rare, Threatened, or Endangered Species (RARE) Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Migration of Aquatic Organisms (MIGR) Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN) Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Shellfish Harvesting (SHELL) Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.

Water Quality Enhancement (WQE) Beneficial uses of waters, including wetlands and other waterbodies, that support natural enhancement or improvement of water quality in or downstream of a waterbody including, but not limited to, erosion control, filtration and purification of naturally occurring water pollutants, streambank stabilization, maintenance of channel integrity, and siltation control.

Flood Peak Attenuation/Flood Water Storage (FLD) Beneficial Uses of riparian wetlands in flood plain areas and other wetlands that receive natural surface drainage and buffer its passage to receiving waters.

Wetland Habitat (WET)

Uses of water that support natural and man-made wetland ecosystems, including, but not limited to, preservation or enhancement of unique wetland functions, vegetation, fish, shellfish, invertebrates, insects, and wildlife habitat.

Native American Culture (CUL) Uses of water that support the cultural and/or traditional rights of indigenous people such as subsistence fishing, basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses.

~~The list of beneficial uses in Table 2-1 reflects demands on the water resources of the Region. Water quality objectives based on these uses will adequately protect the quality of the Region's waters for future generations.~~

~~Current beneficial uses may be broadly categorized as water supply, recreation, fish and wildlife habitat, navigation, power generation, and scientific study.~~

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Key to Table 2-1

The list of beneficial uses in Table 2-1 reflects demands on the water resources of the North Coast Region. Water quality objectives (see Chapter 3) will adequately protect the quality of the waters of the region for future generations.

Table 2-1 lists designated beneficial uses of inland surface waters by hydrologic unit, hydrologic area, hydrologic subarea, and in a few cases, by specific waterbody. General categories at the bottom of the table list the beneficial uses of bays/harbors, estuaries/lagoons, ocean waters, minor coastal streams, freshwater and saline wetlands, and groundwater.

Within Table 2-1, hydrologic unit, area, and sub-area numbers are shown as developed for the State's hydrologic basin planning system. For uniformity purposes, the Calwater system was developed by a State and Federal interagency committee in 1997. Calwater is a set of standardized watershed boundaries for California nested into larger previously standardized watersheds, which meet standardized delineation criteria.

“CALWATER (Rbuas) Number” This column contains a numeric identifier in a specified order representing specific subdivisions of drainage used by the Calwater classification system. The number follows the format below:

Hydrologic Region + Basin/ HU + HA + HSA

“Hydrologic Unit/Subunit/Drainage Feature” This column contains (in bold type) the names of watersheds and subwatersheds corresponding to the hydrologic unit (HU), hydrologic area (HA), or hydrologic subarea (HSA) number in the preceding column. The definitions of these area classifications are provided below.

HU: Hydrologic Unit Each hydrologic region is divided into hydrologic units, which are defined by surface drainage as well as topographic and geographic conditions. A hydrologic unit may encompass a major river watershed or a major groundwater basin, contiguous watersheds with similar hydrogeologic characteristics, or a closed drainage area, such as a desert basin or group of such basins.

HA: Hydrologic Area Major subdivisions of hydrologic units. Best described as major tributaries

of a river, large valley groundwater basin, or a component of a stream or desert basin group.

HSA: Hydrologic Subarea Consist of a major segment of a hydrologic area having significant geographical characteristics of hydrological homogeneity.

Drainage Feature/Waterbody An individual waterbody, which has been listed as a distinct feature of the hydrologic subunit in which it exists, based on unique designated beneficial uses.

Beneficial Uses The subheadings under this heading are abbreviations of beneficial uses, which are defined above. An “E” or a “P” in a column beneath one of these designates an existing or potential beneficial use for a given hydrologic area, sub-area or waterbody, respectively. The complete list of beneficial uses follows:

MUN	Municipal and Domestic Supply
AGR	Agricultural Supply
IND	Industrial Service Supply
PRO	Industrial Process Supply
GWR	Groundwater Recharge
FRSH	Freshwater Replenishment
NAV	Navigation
POW	Hydropower Generation
REC-1	Water Contact Recreation
REC-2	Non-Contact Water Recreation
COMM	Commercial and Sport Fishing
AQUA	Aquaculture
WARM	Warm Freshwater Habitat
COLD	Cold Freshwater Habitat
SAL	Inland Saline Water Habitat
EST	Estuarine Habitat
MAR	Marine Habitat
WILD	Wildlife Habitat
BSA	Biologically Significant Areas
RARE	Rare, Threatened, or Endangered Species
MIGR	Migration of Aquatic Organisms
SPWN	Spawning, Reproduction, and/or Early Development
SHELL	Shellfish Harvesting
WQE	Water Quality Enhancement
FLD	Flood Peak Attenuation/ Flood Water Storage
WET	Wetland Habitat
CUL	Native American Culture

INSERT TABLE 2-1
(proposed changes shown in strikeout)

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IDENTIFYING PRESENT AND POTENTIAL BENEFICIAL USES

In the basin planning process, a number of beneficial uses are usually identified for a given body of water. At a minimum, States must designate uses that are attainable whether or not they are currently being attained. Attainable uses are uses that can be achieved when technologies are implemented to achieve effluent limits under Section 306 of the Clean Water Act and when cost-effective and reasonable Best Management Practices (BMPs) are imposed.

Water quality objectives are established (see Chapter 3) to be sufficiently stringent to protect the most sensitive use. The Regional Water Board reserves the right to resolve any conflicts among beneficial uses, based on the facts in a given case. It should be noted that the assimilation of wastes is not a beneficial use.

In the table of beneficial uses (Table 2-1), an "E" indicates an existing use and a "P" indicates a potential use. Biological data, human use statistics, and/or professional experience documents the existing uses. Existing uses are those uses, which were attained in a waterbody on or after November 28, 1975.¹ Existing uses cannot be removed or modified unless a use requiring more stringent criteria is added. However, a use requiring more stringent criteria can always be added because doing so reflects the goal of further improvement of water quality.

Waterbodies may have potential beneficial uses established for any of the following reasons: 1) the use existed prior to November 28, 1975, but is not currently being attained; 2) plans already exist to put the water to that use; 3) conditions make such future use likely; 4) the water has been identified as a potential source of drinking water based on the quality and quantity available (see *Sources of Drinking Water Policy*, in Appendix 7); 5) existing water quality does not support these uses, but remedial measures² may lead to attainment in the future; or 6) there is insufficient information to support the use as existing.

¹ Date of the first Water Quality Standards Regulation published by USEPA (November 28, 1975) 40 CFR 131.3 (e).

² Remedial measures include implementation of effluent limits required under Section 301(b) and 306 of the CWA, and implementation of cost-effective and reasonable best management practices for nonpoint source control. CWA Sect. 131.10(d).

however, the potential for the use exists and upon future review, the potential designation may be re-designated as existing. The establishment of a potential beneficial use can have different purposes such as establishing a water quality goal, which must be achieved through control actions in order to re-establish a beneficial use, or serving to protect the existing quality of a water source for eventual use.

A major percentage of water supply use in the Region occurs in the Many communities in the region depend on surface waterbodies for their municipal water supply. These waterbodies include the Smith, Mad River, and Russian Rivers hydrologic units. Agricultural water use is distributed over more areas than domestic, municipal and industrial use, and includes the Russian River, Eel River, Smith River, Mad River, Redwood Creek, Cape Mendocino, Mendocino Coast hydrologic units, as well as the Lost River, Butte Valley, Shasta Valley and Scott Valley areas of the Klamath River hydrologic unit as it is present in all of the hydrologic units within the region.

Recreational use occurs in all hydrologic units on both fresh and salt water. Water recreation areas in the North Coast Region attract over ten million people annually and the numbers are expected to keep growing. This area has rugged natural beauty and some of the most renowned fishing streams in North America. The North Coast Region has many unique characteristics: diverse topography including a scenic ocean shoreline; diverse forest environments including a large forested belt which has more than half of California's redwoods; and extensive inland mountains.

Coastal areas receiving the greatest recreational use have been the ocean beaches, the lower reaches of rivers flowing to the ocean, and Humboldt and Bodega Bays. Rivers receiving the largest levels of recreational use are the Russian, Eel, Mad, Smith, Trinity, Navarro Rivers, and Redwood Creek. Activities cover the spectrum of water-oriented recreation, with fishing and river rafting running, kayaking, and canoeing being popular on the rivers, and fishing, clamming, beach combing, and surfing predominating at the ocean beaches and bays. Photography, painting, bird watching, and sightseeing has been an important recreational activity, which take place throughout all of the entire North Coast Region.

Virtually all surface waters are home to fish and wildlife in the North Coast Region. Fish and wildlife are abundant in the Region. Coastal waters and streams

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support anadromous fish, which are important for both sport and commercial fishing. Historically, coastal and inland streams in the region provided thousands of miles of habitat suitable for salmon and steelhead. Recent focus has been placed on re-establishment of the once productive anadromous salmonid runs in the North Coast Region through habitat restoration and educational outreach. The Smith River, Klamath River, Redwood Creek, Mad River, Eel River, Russian River and the coastal streams total over 1,000 miles of stream habitat suitable for salmon and steelhead. Humboldt and Bodega Bays support shellfish and fish populations, which are very important to the commercial fishing industry and to the recreationalist. Both bays also provide refuge for wildlife populations especially waterfowl, shorebirds, and other water-associated birds.

~~Several~~ Many of the watersheds of the North Coast Region support plant and wildlife species that are considered to be rare, threatened, and endangered. A few examples include the Swainson's hawk (*Buteo swainsoni*), Bald eagle (*Haliaeetus leucocephalus*), American peregrine falcon (*Falco peregrinus tundrius*), California clapper-rail, Coho Salmon (*Oncorhynchus kisutch*), Chinook Salmon (*Oncorhynchus tshawytscha*), Lost River sucker (*Deltistes luxatus*), Shortnose sucker (*Chamistes brevirostris*), California freshwater shrimp (*Syncaris pacificaz*), Howell's spineflower, Baker's larkspur (*Delphinium hesperium* sp. *Cuyamaca*), and Sebastopol meadowfoam (*Limnanthes vinculans*), all of which have been observed in watershed areas within the North Coast Region. ~~The Department of Fish and Game prepares an annual report which summarizes the status of rare, threatened, and endangered plants and animals.~~

Navigation is vital to the economy of the Region. There are fishing ports at Crescent City, Eureka, Fort Bragg, and Bodega Bay. ~~The most important principal commercial harbor between San Francisco and Coos Bay, Oregon, is~~ the Port of Eureka located at Humboldt Bay.

~~There is a small amount of hydroelectric power generation in the Region. Hydroelectric power plants are located at~~ The hydroelectric power generation projects in the region are the Klamath River Project, located at Iron Gate Reservoir and Copco Lake on the Klamath River; Clair Engle Lake on the Trinity River; Trinity Dam, located at Trinity Lake (formerly Clair Engle Lake); Matthews Dam located at Ruth

Lake on the Mad River; Van Arsdale Dam on the Eel River; the Potter Valley Project located at Van Arsdale Reservoir on the Eel River; Coyote Dam located at Lake Mendocino on the East Fork of the Russian River; and Warm Springs Dam on Dry Creek, a tributary to the Russian River.

~~Scientific studies occur in all units of the Region. The more intensely studied areas are along the coast where there are two marine life reserves and one refuge. The three areas, which include the Del Mar Landing Ecological Reserve, the Gerstle Cove Reserve, and the Bodega Bay Refuge, are located in Sonoma County. In addition to these, there are five other sites which have been included in the statewide system and designated as areas of special biological significance. These are the Pygmy Forest Ecological Staircase, kelp beds at Saunders Reef, kelp beds at Trinidad Head, Kings Range National Conservation Areas, and Redwood National Park.~~

~~Groundwaters throughout the Region are used for domestic, agricultural, and industrial supply. Shallow groundwaters are frequently used for domestic supply. These shallow groundwaters are often interconnected to deeper aquifers through their stratigraphy and through wells constructed across multiple aquifers.~~

Projected Water Demands

~~The population of the North Coast Region is projected to increase into the twenty-first century. Additional demands will be placed on the water resources of the Region to supply more water for future residential, commercial, industrial and agricultural developments, to accommodate a higher recreational demand, and to produce more fish and wildlife to satisfy increased sport fishing and hunting interests and commercial fishing requirements. At the same time, the aesthetic beauty of the Region and its waters must be protected and in some cases enhanced.~~

~~In order to meet the increasing water demands posed by population growth in the North Coast Region, conservation, reclamation, and reuse of water must be encouraged. Previous projections of water demands assumed that normal weather patterns would prevail. The droughts of 1976 to 1977 and 1987 to 1992 revealed the deficiencies in water supply that exist in specific areas of the North Coast Region, including Fort Bragg, the Mendocino Coast, the Humboldt Bay area, and the Klamath River Basin.~~

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The greatest demands for local water supply are expected to be in Sonoma and Mendocino counties although increased demand is expected region-wide in response to population increases. Agricultural water use is expected to increase in the Eel River, Navarro River, and Russian River areas. Almost all areas will experience small demands for agricultural water supply.

Recreational demands for the Region are projected to increase. The ocean and coastal areas and the lower Reaches of the streams flowing to the ocean are expected to receive a major portion of the increased recreational demand. In recognition of the unique aesthetic and wildlife values of the North Coast Region rivers, several have been included in the California Wild and Scenic River System. These include the Smith River and all of its tributaries; the Klamath River below Iron Gate Dam, and portions of its major tributaries, the Scott, Salmon, North Fork Salmon Rivers and Wooley Creek, in addition to the Trinity River below Lewiston Dam and portions of its major tributaries, the North and South Forks, and the New River; and the main stem of the Eel River and portions of its major tributaries, the North, Middle and South Forks, and the Van Duzen River.

The demand for fishing has probably peaked due to reductions in anadromous salmonid species in several north coast rivers and streams. Efforts are being made in several of these areas to restore natural habitat in order to improve conditions for the fisheries. Salmon and steelhead populations in several north coast streams are being supplemented by releases of hatchery reared fish.

DESIGNATION OF THE "RARE" BENEFICIAL USE

The Rare, Threatened, or Endangered Species (RARE) beneficial use designation was based, in part, on the information contained within the California Department of Fish and Game's Natural Diversity Data Base (CNDDDB). The CNDDDB tracks the location and condition of Federal and State listed rare, threatened, endangered, and sensitive plants, animals and natural communities. The CNDDDB is the most complete single source of information on California's rare, endangered, threatened and sensitive species, and natural communities. However, the absence of a special animal, plant, or natural community from the CNDDDB report does not

necessarily mean that they are absent from the area in question, only that no occurrence data was entered in the CNDDDB inventory as of January 2001. Supplemental information was collected by interviewing biologists with the California Department of Fish and Game and the U.S. Forest Service regarding the presence of rare, threatened and endangered species.

The RARE designation is added based on substantial evidence that the waterbody supports threatened or endangered species. By definition, waterbodies with a RARE designation support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered. The Regional Water Board can provide specific information about the sighting(s) used to designate the RARE beneficial use. However, it is the responsibility of the lead agency or project sponsor to provide adequate information as to whether a proposed project will affect fish and wildlife (including plants) and their habitats.

The RARE beneficial use is generally, but not always, present throughout the entire reach of a particular waterbody. In addition, the RARE beneficial use may not be present throughout the year. The RARE designation is placed on bodies of water where the protection of a threatened or endangered species depends on the water either directly, or to support its habitat. The purpose of the RARE designation for a particular hydrologic subarea or waterbody is to highlight the existence of the threatened or endangered species. This will ensure that, absent extraordinary circumstances, RARE species are not placed in jeopardy by the quality of the discharges to those waterbodies.

Recognition that a waterbody is used by threatened or endangered species (RARE) does not necessarily mean that any particular suite of water quality objectives will be applied to the water body. In the absence of RARE species, the Regional Water Board would rely on the aquatic habitat uses. These include Cold Freshwater Habitat (COLD), Warm Freshwater Habitat (WARM), Estuarine Habitat (EST), Marine Habitat (MAR), Migration (MIGR) of Aquatic Organisms, Spawning, Reproduction, and/or Early Development (SPWN), and Wildlife Habitat (WILD).

DESIGNATION OF THE "BIOLOGICALLY

SIGNIFICANT AREAS” BENEFICIAL USE

State Water Quality Protection Areas (SWQPA)s, previously identified as Areas of Special Biological Significance (ASBS), are designated by the State Water Board. In these areas, alteration of natural water quality is especially undesirable. The State Ocean Plan (see Appendix 4) requires discharges of wastewaters and/or heat to be a sufficient distance from these areas to assure maintenance of natural water quality conditions. Existing wastewater and/or heat discharges adjacent to these areas must be phased out as promptly as possible.

The following coastal waters have been designated as SWQPAs in the North Coast Region. For detailed descriptions of their boundaries, see the Ocean Plan discussion in Chapter 5, Plans and Policies:

- Pygmy Forest Ecological Staircase
- Del Mar Landing Ecological Reserve
- Gerstle Cove
- Bodega Marine Life Refuge
- Kelp Beds at Saunders Reef
- Kelp Beds at Trinidad Head
- Kings Range National Conservation Area
- Redwoods National Park

The locations in the North Coast Region meeting the definition of BSA have been designated as such and are described in detail below. These sites include Natural Preserves, Marine Protected Areas, Ecological Reserves, State Reserves, State Parks, National Wildlife Refuges, Key Watersheds and Wild Trout Waters. There are no additional water quality requirements associated with these locations as there are for the eight sites officially designated as SWQPAs by the State Water Board listed above.

Natural Preserves consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other State Park System units. The purpose of Natural Preserves is to preserve such features as rare or endangered plant and animal species and their supporting ecosystems. Natural Preserves are identified by the California State Park and Recreation Commission (Public Resources Code, Division 5 Chapter 1, Article 1). The following designated Natural Preserves are located in the North Coast Region:

- Big Lagoon Forest South, West and East Natural

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- Preserves (Harry A. Merlo State Recreation Area)
- Pygmy Forest Natural Preserve (VanDamme State Park)
- Inglennook Fen-Ten Mile Dunes Natural Preserve (MacKerricher State Park)
- Arena Rock Marin Natural Preserve
- Brush Creek/Lagoon Lake Wetlands and Coastal Dunes Natural Preserve
- Lake Davis Wetlands and Coastal Dunes Natural Preserve

The definition of Marine Protected Areas (MPAs) is identified in the Marine Protected Areas Executive Order 13158 (Federal Register, 2000), which defines an MPA as “any area of the marine environment that has been reserved by Federal, State, territorial, tribal or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.”

There are many different types of MPAs in United States waters. The following sites are Marine Protected Areas in the North Coast Region, as designated in the Marine Life Protection Act:

- Kings Range Marine Recognized Protected Area
- Gerstle Cove Reserve
- Del Mar Landing Ecological Reserve
- MacKerricher State Park
- Russian Gulch State Park
- Van Damme State Park
- Sonoma Coast State Beaches
- Arena Rock State Park
- Salt Point State Park
- Fort Ross State Historic Park
- Duxbury Reef Reserve

Ecological Reserves are defined as “land or land and water areas” which are designated as an ecological reserve by the California Fish and Game Commission pursuant to Section 1580. These areas are to be preserved in a natural condition for the benefit of the general public to observe native flora and fauna and for scientific study.”

The following areas in the North Coast Region are designated Ecological Reserves by the Commission (California Code of Regulations, Title 14, Section 630):

- China Point Ecological Reserve
- Table Bluff Ecological Reserve

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- Atascadero Creek Marsh Ecological Reserve
- Theiller Sebastopol Meadowfoam Ecological Reserve
- Laguna de Santa Rosa Ecological Reserve
- Little Butte Ecological Reserve
- Little Red Mountain Ecological Reserve
- Mattole River Ecological Reserve
- Yorkville Ecological Reserve

State Reserves (URL <http://www.parks.ca.gov>) are defined as areas embracing outstanding natural or scenic characteristics of statewide significance. The purpose of this classification is to preserve the Reserve's native ecological associations, unique faunal or floral characteristics, geological features and scenic qualities in a condition of undisturbed integrity. State reserves may be established in the terrestrial or underwater environments of the state (PRC, Section 5001.5). The following Reserves are located in the North Coast Region:

- Armstrong Redwoods State Reserve
- Kruse Rhododendron State Reserve
- Jug Handle State Reserve
- Mailliard Redwoods State Reserve
- Smithe Redwoods State Reserve
- Azalea State Reserve
- Caspar Headlands State Reserve
- Montgomery Woods State Reserve

The purpose of State Parks (URL <http://www.parks.ca.gov>) is to preserve outstanding natural, scenic and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of such geological regions of California as the Sierra Nevada, northwest volcanic, great valley, coastal strip, Klamath-Siskiyou Mountains, southwest mountains and valleys, redwoods, foothills and low coastal mountains, and desert and desert mountains (PRC, Section 5019.53). The following State Parks are located in the North Coast Region:

- Annadel State Park
- Sugarloaf Ridge State Park
- Salt Point State Park
- Manchester State Park
- Hendy Woods State Park
- Navarro River Redwoods State Park
- Montgomery Woods State Park
- Van Damme State Park
- Mendocino Headlands State Park
- Mendocino Woodlands State Park

- Russian Gulch State Park
- MackKerricher State Park
- Sinkyone Wilderness State Park
- Richardson Grove State Park
- Humboldt Redwoods State Park
- Grizzly Creek Redwoods State Park
- Patrick's Point State Park
- Humboldt Lagoons State Park
- Prairie Creek Redwoods State Park
- Del Norte Coast Redwoods State Park
- Jedediah Smith Redwoods State Park

The mission of the National Wildlife Refuge System follows: "administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

The following areas in the North Coast Region are designated as National Wildlife Refuges, by the U.S. Fish and Wildlife Service:

- Lower Klamath National Wildlife Refuge
- Modoc National Wildlife Refuge
- Clear Lake National Wildlife Refuge
- Humboldt Bay National Wildlife Refuge
- Tule Lake National Wildlife Refuge

A system identifying Key Watersheds that serve as important refugia for at-risk stock of anadromous salmonids and resident fish species as well as sources of high quality water was developed by the Forest Ecosystem Management Assessment Team in 1993. The Team is comprised of the following agencies: U.S. Fish and Wildlife Service, U.S. National Park Service, USEPA, U.S. Bureau of Land Management, National Marine Fisheries Service, and the U.S. Forest Service.

Key Watersheds include areas of good habitat as well as some areas of degraded habitat. Areas in good condition would serve as anchors for the potential recovery of depressed stocks. Those of lower quality habitat have a high potential for restoration and will become future sources of good habitat with the implementation of a comprehensive restoration program. The following are listed as "Key Watersheds" on U.S. Forest Service and U.S. Bureau of Land Management lands in the North Coast Region:

- Lower Klamath Hydrologic Area (HA)
 - Bluff Creek, Camp Creek, & Blue Creek
- Middle Klamath Hydrologic Area (HA)

- Clear Creek, Dillon Creek, & Grider Creek
- Salmon River Hydrologic Area (HA)
- Wooley Creek, Red Creek Cap, & Blue Creek

The California Wild Trout Program was established by Fish and Game Commission in 1971 to protect and enhance quality fisheries sustained by wild strains of trout. The Commission recognized the importance of high quality habitat for the maintenance of wild trout populations. The policy states: "All necessary actions, consistent with State law, shall be taken to prevent adverse impact by land or water development projects affecting wild trout waters." The following North Coast waterbodies are listed as Wild Trout Waters:

- Upper Klamath River (Copco Lake HSA)
- Stone Lagoon

BENEFICIAL USES FOR SPECIFIC WATERBODIES

Beneficial uses are designated for all waters in the North Coast Region. The waterbodies are separated into various categories. Wetlands and groundwater are described outside of the Coastal and Inland Waters categories, as they are unique waterbodies that require more detailed descriptions. Freshwater and saline wetlands are combined for the purposes of discussion on wetlands, but separated in Table 2-1 for the purpose of designation of beneficial uses. Each waterbody category is defined below as follows.

Coastal Waters

Coastal waters discussed in this section may be defined as waters subject to tidal action and include ocean waters, enclosed bays, harbors, estuaries, and lagoons. Beneficial uses for these coastal waters generally include, but are not limited to: Water Contact and Non-contact Water Recreation (REC-1, REC-2), Estuarine Habitat (EST), Rare, Threatened or Endangered Species (RARE), Wildlife Habitat (WILD), Marine Habitat (MAR), Shell Fish Harvesting (SHELL), Saline Habitat (SAL), and Navigation (NAV). Coastal waters include the subcategories: ocean waters, enclosed bays, and estuaries as described below.

Ocean Waters

Ocean waters are territorial marine waters of the Region as defined by California law to the extent that

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these waters are outside of enclosed bays, estuaries, and coastal lagoons.

Enclosed Bays

Enclosed bays are indentations along the coast, which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest difference between the headlands or outermost harbor works is less than seventy-five percent of the greatest dimension of the enclosed portion of the bay. These areas are generally more sheltered from wave action than the open coast and are relatively shallow (less than 30m in depth).

Large shallow inlets and enclosed bays are complex systems interlinking the terrestrial and aquatic environments and composed of an interdependent mosaic of subtidal, intertidal, and surrounding terrestrial habitats. Enclosed bays do not include inland surface waters or ocean waters.

Estuaries

Estuaries are the tidal portions of rivers located at the mouths of streams, which are sometimes temporarily separated from the ocean by sandbars. Estuarine waters extend from a bay or the open ocean to a point upstream where the freshwater of the river mixes with the saline ocean water.

Estuarine coastal waters provide protective habitat for marine life (MAR), including shellfish, and support the migration (MIGR) of aquatic organisms including anadromous salmonids. These waters are also used extensively for Water Contact and Non-Contact Water Recreation (REC-1, REC-2), Navigation (NAV), and Commercial and Sport Fishing (COMM), among others.

All coastal lagoons of the North Coast Region are included in the estuaries category. The mouths of most of the rivers and creeks are continually affected by tidal action and present a relatively stable environment for wildlife and vegetation. Other coastal lagoons may be separated from tidal action by earthen deposits and thus present an environment with major seasonal variations. Such conditions result in the development of a unique biologic community highly specific to that area. Occasionally, the mouths of these coastal lagoons are opened subjecting the lagoons to tidal flushing which causes short-term

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changes to the habitat conditions and enhancement of the recreational uses. The action would not alter the categories of beneficial uses of the coastal lagoons.

Inland Surface Waters

Inland surface waters consist of rivers, streams, lakes, reservoirs, and inland wetlands. Beneficial uses of these inland surface waters and their tributaries are designated on Table 2-1.

Rivers and Streams

Beneficial uses of inland surface waters generally include Water Contact Recreation (REC-1); Cold Freshwater Habitat (COLD); Warm Freshwater Habitat (WARM); Spawning, Reproduction, and Development (SPWN); Migration of Aquatic Organisms (MIGR); and Commercial and Sport Fishing (COMM), reflecting the goals of the federal Clean Water Act. Inland waters are also often designated with Agricultural Water Supply (AGR), Industrial Water Supply (IND), Industrial Process Supply (PRO), Non-contact Water Recreation (REC-2), and Wildlife Habitat (WILD) uses. In addition, inland water bodies are sometimes designated with Biologically Significant Areas (BSA) and Rare, Threatened or Endangered Species (RARE) uses. Many regional streams are primary sources of replenishment for major groundwater basins that supply water for drinking and other uses, and as such must be protected as Groundwater Recharge (GWR). Inland surface waters that meet the criteria mandated by the *Sources of Drinking Water Policy* (Resolution No. 88-63, Appendix 7) are designated Municipal and Domestic Supply (MUN) (This policy is reprinted in Appendix 7). Several waterbodies have been designated with the new Native American Cultural (CUL) beneficial use, which is applied when there is information available indicating that waters are used for cultural purposes meeting the new definition of CUL as detailed on page 2 – 5.00.

Lakes and Reservoirs

Lakes and reservoirs are depressions that are natural or artificial impoundments of water used for irrigation, municipal water supply, recreation, and hydroelectric power generation, among others. These water resources have the greatest diversity of beneficial uses and are located in several of the region's hydrologic units. All lakes and reservoirs in the region are designated with Water Contact Recreation (REC-1), reflecting the federal Clean Water Act goals. Water Contact Recreation (REC-1) uses can be restricted or prohibited by the entities that manage

these waters.

The largest reservoirs in the region (the Central Valley Project's Trinity Lake and the Army Corps of Engineer's Lake Sonoma) export to adjacent hydrologic regions, while Clear Lake Reservoir in Modoc County, supplies water to the United States Bureau of Reclamation (USBR) Klamath Project, which is mainly in Oregon.

Wetlands

Wetlands are waters of the state and are protected under state regulations by provisions of the California Water Code. In addition, wetlands are protected under the federal Clean Water Act, which was enacted with a goal to restore and maintain the physical, chemical, and biological integrity of the nation's waters, including wetlands. Federal regulations define wetlands (40 CFR § 116.3) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Although the definition of wetlands differs widely among federal agencies, both the USEPA and the U.S. Army Corps of Engineers use this definition in administering the Clean Water Act Section 404 discharge permit program.

Federal administrative regulation (40 CFR § 122.2) defines wetlands as a subset of "Waters of the United States," for purposes of the federal Clean Water Act. Waters of the State are defined by the Porter-Cologne Act as "any water, surface or underground, including saline waters, within the boundaries of the State" (CWA § 13050[e]). The definition of Waters of the State is broader than the definition of Waters of the United States. Under State law, wetlands are waters of the State and wetland water quality control is within the jurisdiction of the State and Regional Boards independent of federal law, and need not meet federal jurisdictional requirements under the Clean Water Act to trigger regulatory controls.

A United States Supreme Court decision on January 9, 2001, *Solid Waste Agency of Northern Cook County (SWANCC) v. Army Corps of Engineers*, 69 U.S.L.W. 4048 (2001), limited the types of bodies of waters for which U.S. Army Corps of Engineers Section 404 discharge permits are required. The court held that certain isolated, non-navigable,

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intrastate waters (a sub-category of wetlands) cannot be interpreted by U.S. Army Corps of Engineers to be navigable waters solely on the basis that they serve as habitat for migratory birds. Therefore, U.S. Army Corps of Engineers discharge permits are not required to discharge dredged or fill material into such bodies of water. The SWANCC decision does not affect the Porter-Cologne (California Water Code) authorities to regulate discharges to isolated, non-navigable waters of the State.

State and Federal Wetland Policies

The state of California and the federal government adopted separate wetland policies in August 1993 to protect these valuable waters. These policies represented a significant advance in wetland protection. The policies that were developed represent agreements that are sensitive to the needs of landowners and provide flexibility in the permit process. Both policies support the interim goal of no overall net loss and the long-term goal of increasing the quality and quantity of the remaining wetlands.

Wetland Identification, Delineation and Regulating

Regulating development to minimize its effects on existing wetlands is a primary function of several agencies in California. The Water Board's role in this process is the protection of water quality and the beneficial uses of waters. There are many issues pertinent to wetland regulatory decisions that demonstrate the complexity and controversy that surround regulation and protection of this resource. These include defining what a wetland is, determining its allowable uses, and in some cases determining the appropriate compensatory mitigation: all of which are challenging issues.

The Coastal Act provides strong enforceable policies for protection of wetlands within California's coastal zone. These policies are described in the *Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone* (California Coastal Commission, 1994) and the *Procedural Guidance for Evaluating Wetland Mitigation Projects in the California Coastal Zone* (California Coastal Commission, 1995). These documents also outline wetland identification and delineation processes, the permit and environmental review processes, project performance standards, monitoring programs, and the mitigation process, among others.

The Regional Water Board recognizes that wetlands are frequently referred to under the following names (or classifications): saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, sandflats, unvegetated seasonal ponded areas, vegetated shallows, sloughs, wet meadows, fens, playa lakes, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands.

In this region, the Regional Water Board, in general, relies on the federal *Wetlands Delineation Manual* (1987, U.S. Army Corps of Engineers) for determining wetland areas subject to the federal Clean Water Act. In the rare cases where the USEPA and U.S. Army Corps guidelines disagree, the Regional Water Board relies on the wetlands delineation made by USEPA. Where the "SWANCC" decision leads to a federal determination that a specific wetland is not "jurisdictional" for federal purposes, the Regional Water Board will exercise its independent judgment in determining both the size and functions of the water at issue, and the necessary requirements to protect water quality as required by Porter-Cologne.

Regional Water Board staff will prepare and implement a plan to identify and delineate wetlands within the Region to be implemented when funding becomes available. However, because of the large number of small and contiguous wetlands, it may not be practical to delineate and specify beneficial uses for every wetland area. Therefore, wetlands and their beneficial uses may continue to be determined on a site-specific basis, as necessary.

Constructed Treatment Wetlands

Constructed wetlands are, in most cases, designed, built and managed to provide wastewater or storm water treatment in order to achieve protection or improvement in receiving water quality. These types of wetlands are not constructed to provide mitigation for projects that impact jurisdictional wetlands. These constructed treatment wetlands can also have other benefits including the support of waterfowl and other wildlife, as well as opportunities for education and recreation.

The Regional Water Board's approach toward regulation of the use of these constructed wetlands is to encourage protection of these affiliated uses while appropriate treatment uses are supported.

Beneficial Uses of Wetlands

The Lahontan and Los Angeles Regional Water Boards have defined three additional beneficial uses related to wetlands that have been adopted by the State Water Board. These beneficial uses: 1) Wetland Habitat (WET), 2) Flood Peak Attenuation/Flood Water Storage (FLD), and 3) Water Quality Enhancement (WQE) are now designated for freshwater and saline wetlands in the North Coast Region (see Table 2-1). The definitions of these beneficial uses can be found within the list of beneficial uses on page 2-4.00. Many beneficial uses for saline and freshwater wetlands have been designated as potential although some wetlands currently have these uses. When field reconnaissance is conducted as part of the wetland identification project described above, the specific beneficial uses of wetlands will be identified as existing or potential on an individual basis.

Groundwater

Groundwater is defined as subsurface water in soils and geologic formations that are fully saturated all or part of the year³. It includes areas where saturation of the soils and geology fluctuate, including areas of capillary fringe. Groundwater bearing formations sufficiently permeable to transmit and yield significant quantities of water are called aquifers. A groundwater basin is defined as a hydrogeologic unit containing one large aquifer or several connected and interrelated aquifers.

Where an aquifer or a number of aquifers underlie a depression that is surrounded or nearly surrounded by hills or mountains, they make up a groundwater basin. Water-bearing geologic units that do not meet the exact definition of an aquifer occur throughout the region within groundwater basins. For instance, there are shallow, low permeability zones throughout the region that have extremely low water yields.

Therefore, for basin planning purposes, the term "groundwater" includes all subsurface waters, whether or not these waters meet the classic definition of an aquifer or occur within identified groundwater basins.

Existing and potential beneficial uses applicable to

³ Groundwater does not include subterranean streams, which have the beneficial uses of surface water.

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groundwater in the region include Municipal and Domestic Water Supply (MUN), reflecting the importance of groundwater as a source of drinking water in the Region and as required by the State Board's *Sources of Drinking Water Policy* (See Appendix 7). Other beneficial uses for groundwater include: Industrial Water Supply (IND), Industrial Process Water Supply (PRO), Agricultural Water Supply (AGR), and Freshwater Replenishment to Surface Waters (FRSH) among others. Occasionally, groundwater is used for other purposes (e.g., groundwater pumped for use in aquaculture operations).

